

# Curriculum Vitae

Shannon Sylvie Abelson

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## Current Affiliations

Interdisciplinary Ethics Postdoctoral Fellow Stanford University McCoy Family Center for Ethics in Society/ Doerr School of Sustainability	2023-present
Member, Next Generation Event Horizon Telescope History Philosophy Culture Working Group	2023-present
Associate Member, NANOGrav	2022-present
Research Affiliate, Center for Space Governance	2023-present

**AOS:** Philosophy of Astronomy and Astrophysics, Environmental Philosophy, Space Governance and Space Environmentalism

**AOC:** General Philosophy of Science, Philosophy of Climate Science, Applied Ethics (especially science ethics), Epistemology of Science

## Education

Ph.D. Philosophy Minor: History and Philosophy of Science	<i>Indiana University, Bloomington, 2023</i>
Graduate Certificate, Astronomy	<i>Swinburne University, 2021</i>
Master of Arts Philosophy	<i>Virginia Tech, 2015</i>
Bachelor of Arts Philosophy, German Magna Cum Laude Minor in History	<i>Stetson University, 2013</i>

## Dissertation Summary

My dissertation developed an epistemology of data-driven astronomy and astrophysics (A&A). These are areas that have undergone very little philosophical work, despite being part of the fastest growing areas of science. There are many standards in testing and confirmation implicit in the science literature, but few systematic attempts to engage these methodologies by philosophers of science. This was the task I set for myself in my dissertation.

## Publications

- (2023) “[Simulation and Experiment Revisited: Temporal Data in Astronomy and Astrophysics](#)”  
*Philosophy of Astrophysics: Stars, Simulations, and the Struggle to Determine What Is Out There*, Eds. Nora Mills Boyd, Siska De Baerdemaeker, Kevin Heng, Vera Matarese, Synthese Library - Studies in Epistemology, Logic, Methodology, and Philosophy of Science
- (2022) “[Variety of Evidence in Multimessenger Astronomy](#),” *Studies in History and Philosophy of Science* 94: 133-142.
- (2022) “[The Fate of Tensor-Vector-Scalar Alternative Gravity](#),” *Foundations of Physics* 52 (1): 1-19.

## Works in Progress

- Eliminative Reasoning in Astronomy and Astrophysics (*manuscript*)
- Increasing Confidence in Machine Learning for Data-Driven Astronomy (*manuscript*)
- Contractualism and Space Governance (*manuscript*)
- Mechanical Evidence and the NANOGrav 15-Year Dataset
- Why Space is an Environment

## Awards and Fellowships

- President’s Diversity Dissertation Fellowship, Indiana University 2021-2022
- Ewing Graduate Essay Prize 2021
- James B. Nelson Dissertation Fellowship, Indiana University 2019- 2020
- Bo and Lynn Clark Graduate Essay Prize 2017
- Academic Excellence Award, Indiana University 2016
- College of Arts and Sciences Fellowship, Indiana University 2015- 2016
- Phi Beta Kappa, National Academic Honor Society 2014- present

- Marjorie Grene Prize in Philosophy, Virginia Tech 2015
- Ronald L. and Margaret Smith Hall Philosophy Award 2013
- Omicron Delta Kappa, National Leadership Honors Society 2013- present

## Research Presentations

\* Indicates invited talk

- American Philosophical Association- Pacific Division March 20-23, 2024  
Philosophy of Physics Society  
Portland, OR  
“Mechanical Evidence and the NANOGrav 15-Year Dataset”
- Stanford University Political Theory Workshop\* October 6, 2023  
Stanford, CA  
“Contractualism and Space Governance”
- 9th Annual Space Traffic Management Conference March 1-2, 2023  
University of Texas, Austin, Strauss Center  
"Attribution of Environmental Impact from Space Traffic:  
Challenges and Lessons from Climate Change Attribution"
- Philosophy of High Energy Physics Early Career Workshop March 26-27, 2022  
University of Pittsburgh  
“Simulation and Experiment Revisited: Temporal Data in  
Astronomy and Astrophysics”
- AGPhil: Arbeitsgruppe Philosophie der Physik March 21, 2022  
der Deutschen Physikalischen Gesellschaft e.V., Frühjahrstagung  
(Working Group: Philosophy of Physics  
The German Physical Society, Spring Meeting)  
Heidelberg, Germany  
“Holistic Eliminative Reasoning for Astronomy and Astrophysics”
- Black Hole Initiative\* March 14, 2022  
Invited Colloquium Series  
Harvard University  
“Eliminative Reasoning in Astronomy and Astrophysics”
- American Philosophical Association: Central Division February 25, 2022  
Chicago, IL  
“Simulation and Experiment Revisited: Temporal Data in  
Astronomy and Astrophysics”
- Indiana Philosophical Association November 13, 2021

“The Fate of Tensor-Vector-Scalar Alternative Gravity”

- Lichtenberg Group for History and Philosophy of Physics\* April 27, 2021  
Invited Colloquium Series  
University of Bonn  
“The Fate of Tensor-Vector-Scalar Alternative Gravity”
- 2020/2021 Philosophy of Science Association Meeting November 2020/2021  
Poster Forum, Baltimore, MD  
“Reducing Uncertainty in Multimessenger Astronomy  
Using Simulation”
- 2020 Nelson Dissertation Fellowship Lecture September 18, 2020  
Indiana University Bloomington  
“Variety of Evidence in Multimessenger Astronomy”
- 8th Integrated History and Philosophy of Science Conference July 15-17, 2020  
(&HPS8) Arlington, VA  
“Testing Modified Models of Gravity”  
Moved to Asynchronous due to Covid-19  
<https://www.youtube.com/watch?v=gS1wb6Zdno0>
- Society for Philosophy of Science in Practice July 7-10, 2020  
East Lansing, MI.  
“Variety of Evidence in Multimessenger Astronomy”  
Cancelled due to Covid-19
- American Association of Philosophy Teachers/  
American Philosophical Association Central Meeting 2020 February 28, 2020  
Teaching Hub Poster Forum  
“Teaching Climate Ethics Using a Model Climate Forum”
- IU History and Philosophy of Science Fall Forum\* November 29, 2018  
“Testing Modified Gravity Models”
- History of Science Society Annual Meeting November 10, 2017  
Toronto, ON  
“Einstein And the Michelson-Morley Experiment:  
The Context of Justification Revisited”
- Thirteenth Biennial History of Astronomy Workshop July 8, 2017  
University of Notre Dame  
“Explanation and Unification: A Closer Look at Aristotle’s  
Astronomical Model”
- Arizona State University Graduate Philosophy Conference February 4, 2017

“Moritz Schlick on Confirmation, Observation, and Conceptual Frameworks”

## Teaching Experience

### Instructor of Record

- Instructor of Record, Business and Morality Spring 2021  
Original course designed entitled, “Business and Sustainability” that examined ethical business practice in light of concerns in the domain of broad sustainability, including environmental, economic, social, and cultural sustainability.
- Instructor of Record- Introduction to Ethics Spring 2019  
Original course designed entitled, “Climate Ethics” that examined contemporary ethical concerns related to global climate change.
- Instructor of Record- Introduction to Ethics Spring 2018  
Original course designed entitled, “Ethics and Star Trek” that examined classical ethical theories using supplemental science fiction case studies.

### Associate Instructor

- Associate Instructor, Public Speaking Fall 2022
- Associate Instructor, Bioethics Fall 2020
- Associate Instructor- Symbolic Logic Fall 2018
- Research Assistant to Professor Sandra Shapshay Fall 2017
- Associate Instructor- Philosophical Methods Spring 2017
- Associate Instructor- Introduction to Ethics Fall 2016
- Graduate Teaching Assistant- Morality and Justice Spring 2015
- Graduate Teaching Assistant- Morality and Justice Fall 2014
- Graduate Teaching Assistant- Knowledge and Reality Spring 2014
- Graduate Teaching Assistant- Knowledge and Reality Fall 2013

### Grader and Tutor

- Grader and Tutor, Virtue Ethics Fall 2021
- Grader and Tutor, Classics in Philosophy of Art Spring 2021
- Grader and Tutor, Medieval Philosophy Fall 2020
- Grader and Tutor, Virtue Ethics Spring 2020
- Grader and Tutor, Medieval Philosophy Fall 2019